

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Previously Presented) A system to provide a determination of an alignment of a prosthetic bearing, the system comprising:

an acetabular prosthesis having a threaded receiving bore;

a trial bearing liner;

a plurality of attachment passages defined by the trial bearing liner each attachment passage located a different latitudinal position from an apex of said trial bearing liner; and

an attachment member having a length to pass through at least one of the attachment passages and interconnect the acetabular prosthesis at said threaded receiving bore and the trial bearing liner;

wherein the attachment member is moveable between a locating position and a fastened position to selectively interconnect said trial bearing liner to the acetabular prosthesis via at least one of said plurality of attachment passages;

wherein said trial bearing liner is only moveable to rotate around an axis defined by said attachment member in said locating position and substantially immobile relative to the acetabular prosthesis in said fastened position.

2. (Previously Presented) The system of claim 1, wherein the acetabular prosthesis includes:

an acetabular cup generally defining a portion of a hollow sphere and defining the threaded receiving bore, said attachment member engaging said acetabular cup at said the threaded receiving bore in said locating position and said fastened position.

3. (Previously Presented) The system of claim 2 wherein said attachment member includes:

an attachment end engaged with said the threaded receiving bore;

a central portion extending through at least one of said plurality of attachment passages; and

an engagement end operable to move said attachment member between said locating position and said fastened position.

4. (Currently Amended) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

a trial bearing liner or trial shell defining an attachment passage ~~therethrough~~ that extends between and through both an inner recess surface and an outer convex surface, the inner recess surface further has a countersink around the attachment passage;

an attachment member moveable between a locating position and a fastened position to selectively and operably interconnect said trial bearing liner or trial shell to the acetabular prosthesis via passing through said attachment passage, said attachment member includes:

an attachment end engagable with a bore defined by the acetabular prosthesis;

a central portion extending through said attachment passage; and

a head portion for manipulating said attachment member between said locating position and said fastened position and wherein the head portion is received in said countersink in said fastened position; and

a lock ring to engage affix said attachment member ~~to couple said attachment member to either~~ to said trial bearing liner or trial shell while the trial bearing liner or the trial shell is moved and prior to the attachment member moving to the locating position or the fastened position;

wherein said trial bearing liner or trial shell is only moveable to rotate around an axis defined by said attachment member in said locating position and substantially immobile relative to the acetabular prosthesis in said fastened position;

~~_____ wherein said attachment member includes:~~
~~_____ an attachment end engagable with a bore defined by the acetabular prosthesis;~~
~~_____ a central portion extending through said attachment passage; and~~
~~_____ an engagement end for manipulating said attachment member between said locating position and said fastened position.~~

5. (Previously Presented) The system of claim 1 wherein the acetabular cup includes an outer rim defining an acetabular cup plane and said trial bearing liner includes an outer rim defining a trial bearing liner plane, wherein the location of at least one of said plurality of attachment passages determines a predetermined angle said trial bearing liner plane is oriented relative to the acetabular cup plane.

6. (Original) The system of claim 5 wherein said predetermined angle is between 0 and 40 degrees.

7. (Currently Amended) The system of claim 4 wherein ~~each of the trial bearing liner or the trial shell define~~ defines a plurality of trial bearing liner attachment passages therethrough and each of said plurality of trial bearing liner attachment passages are offset a different distance from an apex of the trial bearing liner ~~or and the trial shell~~ defines a plurality of trial shell attachment passages therethrough and each of said plurality of trial shell attachment passages are offset a different distance from an apex of the trial shell.

8. (Previously Presented) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

a first trial bearing liner having a first upper rim that defines a first trial bearing liner plane and defining a first attachment passage extending through the first trial bearing liner;

a second trial bearing liner having a second upper rim that defines a second trial bearing liner plane and defining a second attachment passage extending through the second trial bearing liner; and

an attachment member alternatively extendable through each of the first attachment passage or the second attachment passage and moveable between a locating position and a fastened position;

wherein the attachment member alternatively interconnects one of said first and second trial bearing liner to the acetabular prosthesis via said respective attachment passage;

wherein each of said first and second trial bearing liner rotates around an axis defined by said attachment member when said attachment member is in said locating position;

wherein said first trial bearing liner plane is oriented at a first angle relative to an acetabular cup plane defined by an acetabular cup upper rim in said locating position and said second trial bearing liner plane is oriented at a second angle relative to said acetabular cup plane in said locating position;

wherein said second angle is different from said first angle.

9. (Previously Presented) The system of claim 8 wherein said first attachment passage is defined at a first location on a dome of said first trial bearing liner from said second attachment passage defined at a different second location on a dome on said second trial bearing liner.

10. (Previously Presented) The system of claim 8, wherein the acetabular prosthesis includes:

an acetabular cup generally defining a portion of a hollow sphere and defining a bore, said attachment member engaging said bore in said locating position and said fastened position.

11. (Previously Presented) The system of claim 8, wherein said attachment member includes:

an attachment end operable to engage said acetabular cup via said bore;
a central portion extending through said attachment passage; and
an engagement end for manipulating said attachment member between said locating and said fastened position.

12. (Previously Presented) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

a first trial bearing liner defining a first attachment throughbore at a first position offset a first distance from a first apex of the first trial bearing liner;

a second trial bearing liner defining a second attachment throughbore at a second position offset a second distance different from the first distance from a second apex of the second trial bearing liner;

an attachment member moveable between a locating position and a fastened position to selectively and alternatively interconnect each of said first and second trial bearing liner to the acetabular prosthesis through said respective attachment throughbore, each of said first and second trial bearing liner moveable to only rotate around an axis defined by said attachment member in said locating position; and

a locking member adapted to engage said attachment member to operably couple said attachment member and one of said first and second trial bearing liner;

wherein the first attachment throughbore of the first trial bearing liner and the second attachment throughbore of the second trial bearing liner are operable to allow the first trial bearing liner and the second trial bearing liner to be positioned at different angles relative to the acetabular prosthesis with the locking member.

13. (Previously Presented) The system of claim 8, further comprising a third trial bearing liner defining a third trial bearing liner plane and defining a third attachment passage, said third trial bearing liner plane defining a third distinct angle relative to said acetabular cup plane from said first and second trial bearing liner plane when assembled in said locating position.

14. (Original) The system of claim 13 wherein said first, second and third angle is between 0 and 40 degrees.

15. (Previously Presented) The system of claim 8 wherein said first or second attachment passages allow said attachment member to pass through said first or second trial bearing liner.

16. (Previously Presented) A system to provide a determination of an alignment of a prosthetic, the system comprising:

an acetabular prosthesis operable to be implanted;

a trial bearing liner defining an attachment passage;

an attachment member moveable between a locating position and a fastened position to selectively and operably interconnect said trial bearing liner to said acetabular prosthesis via said attachment passage; and

said acetabular prosthesis having an acetabular cup defining a portion of a hollow sphere and defining a threaded bore surrounded by a depression, said attachment member engaging said acetabular cup via said bore in said locating position and said fastened position;

wherein said attachment member passes through and engages said attachment passage in said trial bearing liner and said threaded bore in said acetabular cup;

wherein said trial bearing liner is moveable to only rotate around an axis defined by said attachment member in said locating position and substantially immobile relative to said acetabular prosthesis in said fastened position.

17. (Canceled)

18. (Previously Presented) The system of claim 16 wherein said attachment member includes:

an attachment end engaged with said acetabular cup via said threaded bore;

a central portion extending through said attachment passage; and

an engagement end operable to move said attachment member between said locating position and said fastened position.

19. (Previously Presented) A system to provide a determination of an alignment of a prosthetic, the system comprising:

an acetabular prosthesis having a threaded bore formed in a wall of the acetabular prosthesis;

a trial bearing liner defining an attachment throughbore;

an attachment member moveable between a locating position and a fastened position to selectively and operably interconnect said trial bearing liner to said acetabular prosthesis via said attachment throughbore; and

a lock ring adapted to engage said attachment member to operably couple said attachment member and said trial bearing liner prior to engaging the threaded bore;

wherein said trial bearing liner is moveable in one degree of freedom around an axis defined by said attachment member in said locating position and substantially immobile relative to said acetabular prosthesis in said fastened position;

wherein said attachment member includes:

an attachment end engagable with the threaded bore formed in said acetabular prosthesis;

a central portion extending through said attachment throughbore;

and

an engagement end operable to move said attachment member between said locating and said fastened position.

20. (Previously Presented) The system of claim 16 wherein the acetabular cup includes an outer rim defining an acetabular cup plane and said trial bearing liner includes an outer rim defining a trial bearing liner plane, wherein the location of said attachment passage determines a predetermined angle said trial bearing liner plane is oriented from the acetabular cup plane.

21. (Original) The system of claim 20 wherein said predetermined angle is between 0 and 40 degrees.

22. (Canceled)

23. (Previously Presented) A method of implanting an acetabular prosthesis in an acetabulum and providing a liner in the acetabular prosthesis in a selected orientation, the method comprising:

implanting the acetabular prosthesis having an acetabular rim defining an acetabular plane and a throughbore defining a throughbore axis;

selecting a first trial bearing liner wherein said first trial bearing liner has an upper rim defining a first trial liner plane having first angle relative to a first axis defined by a first attachment passage extending through said first trial bearing liner, wherein the attachment passage is offset from an apex of the first trial bearing liner;

disposing said first trial bearing liner in said implanted acetabular prosthesis to form a first trialing angle between said acetabular plane and said first trial liner plane;

rotating said first trial bearing liner around said throughbore axis to form a plurality of trialing orientations between said acetabular plane and said first trial liner plane;

fixing said first trial bearing liner at one of said trialing orientations with an attachment member that selectively couples said first trial bearing liner to the acetabular prosthesis;

locking the attachment member to said first trial bearing liner; and

moving a femur through a range of motion relative to the first trial bearing liner after fixing said first trial bearing liner at one of said trialing orientations.

24. (Previously Presented) The method of claim 23 further comprising:

removing said first trial bearing liner;

disposing a second trial bearing liner in said acetabular prosthesis, said second trial bearing liner having an upper rim defining a second plane and extending at a second angle from said acetabular prosthesis, said second angle being distinct from said first angle;

rotating said second trial bearing liner to form a plurality of a second trialing orientations;

fixing said second trial bearing liner in one of said plurality of second trialing orientations; and

moving said femur through a range of motion relative to said second trial bearing liner.

25. (Canceled)

26. (Previously Presented) The method of claim 23 wherein fixing the first trial bearing liner includes actuating said attachment member into a fastened position wherein said first trial bearing liner is substantially immobile relative to the acetabular prosthesis.

27. (Previously Presented) The method of claim 23, further comprising:
placing a head extending from said femur in said first trial bearing liner;
and
determining the presence of contact between said femur and said first trial
bearing liner.

28. (Previously Presented) A method of implanting an acetabular prosthesis in an acetabulum and providing a liner in the acetabular prosthesis in a selected orientation, the method comprising:

implanting the acetabular prosthesis, the acetabular prosthesis having a rim that defines an acetabular cup plane;

disposing a first trial bearing liner in said implanted acetabular prosthesis;

rotating said first trial bearing liner around a first attachment passage axis to select a first orientation of the trial bearing liner relative to the plane defined by the acetabular prosthesis;

fixing said first trial bearing liner in said first orientation;

determining the presence of contact between a femur and said first trial bearing liner; and

removing said first trial bearing liner from the implanted acetabular prosthesis and placing a second trial bearing liner in said implanted acetabular prosthesis based on said determination of a presence of contact, wherein said second trial bearing liner is operable to be rotated to a second orientation relative to the acetabular prosthesis.

29. (Previously Presented) The method of claim 28 wherein determining the presence of contact includes:

placing a head extending from said femur in said first trial bearing liner;

moving said femur through a range of motion while maintaining said head in said first trial bearing liner.

30. (Canceled)

31. (Previously Presented) The method of claim 28 wherein disposing a first trial bearing liner includes:

placing said first trial bearing liner in the acetabular prosthesis;

aligning a first attachment passage defined by said first trial bearing liner with a bore defined by the acetabular prosthesis; and

engaging the acetabular prosthesis with an attachment member at said bore and through a first attachment passage that is offset from an apex of the first trial bearing liner and that defines the first attachment passage axis, thereby coupling said first trial bearing liner with the acetabular prosthesis.

32. (Previously Presented) The method of claim 31 wherein fixing said first trial bearing liner includes actuating said attachment member into a fastened position wherein said first trial bearing liner is substantially immobile relative to the acetabular prosthesis.

33. (Previously Presented) The method of claim 31 wherein replacing said first trial bearing liner includes:

removing said attachment member from engagement with said first trial bearing liner and the acetabular prosthesis;

removing said first trial bearing liner from the acetabular prosthesis;

placing said second trial bearing liner in the acetabular prosthesis;

aligning a second attachment passage defined by said second trial bearing liner with said bore; and

engaging the acetabular prosthesis with said attachment member at said bore through a second attachment passage defining the second attachment passage axis, thereby coupling said second trial bearing liner with the acetabular prosthesis.

34. (Previously Presented) The system of Claim 16, wherein the trial bearing liner defines a plurality of the attachment passages each at different radial positions from an apex of the trial bearing liner;

wherein when interconnected with the acetabular cup allow a trial liner plane defined by the trial bearing liner to be positioned at a different angle relative to an acetabular cup plane defined by the acetabular cup.

35. (Previously Presented) The method of Claim 23, further comprising:

passing the attachment member through a second attachment passage to connect the first trial bearing liner and the implanted acetabular prosthesis;

wherein the second attachment passage allows the first trial bearing liner to rotate around a second attachment passage axis different than a first attachment passage axis and define a second angle of the first trial liner plane relative to the acetabular plane.